

Work Order ID 150982

Monday, September 12, 2016 8:57:01 AM

150982

Page 1

Item ID: D3622-15

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Ball Stud

Start Date: 9/9/2016 Start Qty: 10.00

10

Cust Item ID:

Required Date: 9/13/2016 Req'd Qty: 10.00

10

Customer:

Reference:

Approvals: Process Plan: **DAS**
21 Date: **SEP 12 2016**

Tooling:

Date:

Run Start

NR1QC: **9-89**

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D3622	D

100

0.08

100

Hardinge

Hardinge CNC Lathe Small

Hardinge CNC LATHE SMALL

Memo

0.20

1-TURN AS PER FOLIO F _____ & DWG D3622 ,
FOLIO REV: **4A**
DWG REV: **D**
2-DEBURR AS REQUIRED100**DAS****45****9-89****2016-9-28**

110

0.00

110

QC

Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

0.02

100**DAS****45****9-89****2016-9-28**

120

0.00

120

QC

Quality Control

QC8- Inspect parts - second check

Memo

0.03

100**DAS****14****9-89****16/10/03**

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval 	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Temperature/Cure ☐		Power Loss/Surge ☐	
Design ☐		Operator ☐		Set-up ☐		Folio/Program ☐	
Doc/Data ☐		Offset/Setup ☐		BOM/Route ☐		Grain ☐	
Equip/Tooling ☐		Supplier ☐		Broken/Damage/Defect ☐		Weld ☐	
Handling/Pre ☐		Training ☐		Inspection Incomplete/Unqualified ☐		Wrong Stock Pulled ☐	
Material ☐		Use for Testing ☐		Contamination ☐		Out of Sequence ☐	
Internal Transport ☐		Poor Information ☐		Countersink ☐		Off-set ☐	
Tribal Knowledge ☐		Rushing ☐		Cut Too Short ☐		Mislabeled ☐	
LOA ☐		Product Improvement ☐		Instructions Incomplete/Unclear ☐		Fit/Function ☐	
Substation ☐		Process Improvement ☐		Drill Holes ☐		Misaligned/off center ☐	
Past Expiry Date ☐		Manufacturing Process ☐					
Misidentified ☐		Past Due ☐					
OTHER : _____							

Work Order ID 150982***150982***

Page 2

Monday, September 12, 2016 8:57:01 AM

Item ID: D3622-15 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Ball Stud
Start Date: 9/9/2016 Start Qty: 10.00 ***10*** Cust Item ID:
Required Date: 9/13/2016 Req'd Qty: 10.00 ***10*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: <u>St046</u>	0.00							DAS 6 9-89
130						10			
Packaging	Memo	0.02						OCT 04 2016	
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							DAS 21 9-89
140									OCT 05 2016
QC	Memo	0.17							
Quality Control									
									16/10/05
									DAS 21 9-89
								OCT 05 2016	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QSI042) Approval Completed By _____ Lead hand / Supervisor Approval Verification _____ QC / QA Coordinator Approval _____	
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐
Design	☐	Operator	☐	Bending	☐	Set-up	☐
Doc/Data	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐
Equip/Tooling	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐
Handling/Pre	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐
Material	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐
Internal Transport	☐	Poor Information	☐	Crushing	☐	Countersink	☐
Tribal Knowledge	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐
LOA	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐
Substation	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐
Past Expiry Date	☐	Manufacturing Process	☐	OTHER : _____			
Misidentified	☐	Past Due	☐				

Picklist Print

Monday, September 12, 2016 8:57:01 AM

Page 1

Work Order ID: 150982

150982

Parent Item: D3622-15

D3622-15

Parent Item Name: Ball Stud

Start Date: 9/9/2016

Required Date: 9/13/2016

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP REV:A 16.04.20 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M303H0.500		Purchased	No				f	14.6300		1.294737			

M303H0 500

303 HEX BAR .500

Location

MAT018

m134984

m135559

Loc Qty

14.63

2.63

12

Loc Code

DAS

45

9-89

2016-9-28

1.416

DQA: _____ Date: _____

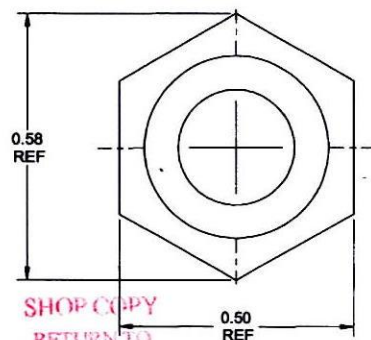
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

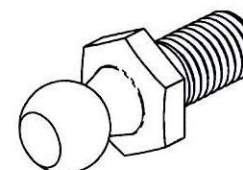
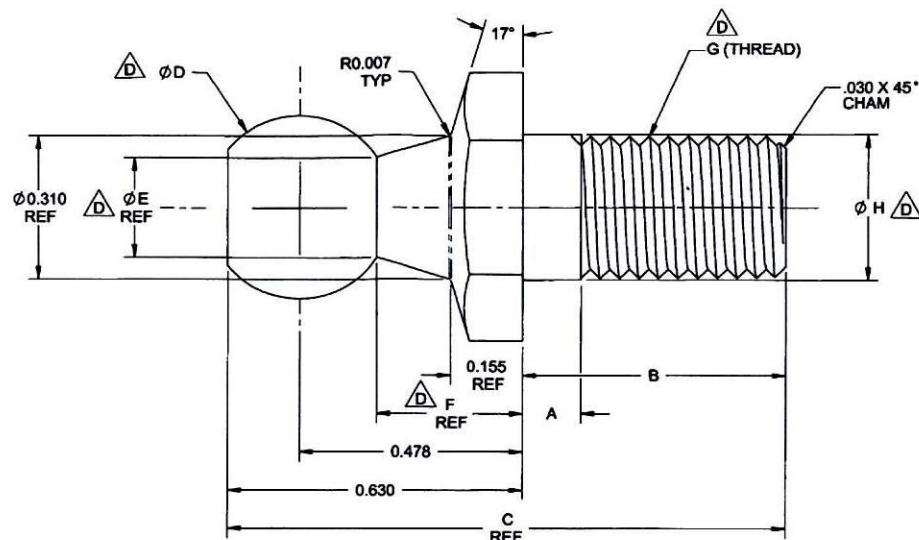
Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : _____					

8 7 6 5 4 3 2 1



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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO 150982 MLJ
1609-12



**D3622-1 BALL STUD
SHOWN**



**D3622-11 BALL STUD
SHOWN**

PART NUMBER	DIM A	DIM B	DIM C	DIM D	DIM E	DIM F	WEIGHT (LBS)	THREAD G	MIN Ø H	MAX
D3622-1	0.125	0.563	1.19	0.394	0.215	0.313	0.03	0.3125-24UNF-3A	0.3053	0.3125
D3622-3	0.125	0.563	1.19	0.394	0.215	0.313	0.03	0.1875-32UNF-3A	0.1840	0.1900
D3622-5	0.090	0.900	1.53	0.394	0.215	0.313	0.04	0.3125-24UNF-3A	0.3053	0.3125
D3622-7	0.060	0.330	0.96	0.394	0.215	0.313	0.03	0.3125-24UNF-3A	0.3053	0.3125
D3622-9	0.090	1.160	1.79	0.394	0.215	0.313	0.04	0.3125-24UNF-3A	0.3053	0.3125
D3622-11	0.060	N/A	0.69	0.394	0.215	0.313	0.02	NOT THREADED	0.270	0.300
D3622-13	0.090	0.680	1.31	0.394	0.215	0.313	0.03	0.3125-24UNF-3A	0.3053	0.3125
D3622-15	0.090	0.430	1.06	0.350	0.202	0.334	0.02	M6 X 1.0	5.82mm	6.00mm

D3622-X BALL STUD

NOTES:

- 1) MATERIAL: AISI 303 HEX BAR
REF DART SPEC M303H0.500
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENT P/N D3622-X & B/N PER QSI 044
- 7) WEIGHT: SEE D3622-X TABLE

RELEASED
2016-04-18
ECN 16-557

APPROVED

REV.	DESCRIPTION	BY	DATE
D	ADDED -15. ADDED COLUMN D, E AND F. RENAMED SUBSEQUENT COLUMNS.	AK	16.03.15
C	SHEET 1: ADD -5, -7, -8, -11 & -13. ADD D3622-X TABLE. SHEET 2 DELETED	JPH	10.07.20
B	ADD -3 (SHEET 2)	HS	09.09.18
A	NEW ISSUE	MB	07.04.13
DESIGN	JPH	DATE	
DRAWN	AK		
CHECKED	VS		
MFG. APPR.	JL		
APPROVED	HS		
DE APPR.	DS		
DATE	16.03.15		

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.
D3622

TITLE
BALL STUD

REV. D
SHEET 1 OF 1
SCALE
NTS

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